

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,905,688 B2  
APPLICATION NO. : 09/833118  
DATED : June 14, 2005  
INVENTOR(S) : Craig A. Rosen et al.

Page 1 of 27

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title Page

Under item (60) (Related U.S. Application Data) of the title page, delete the text beginning with "Provisional application No. 60/229,358" to and ending "provisional application No. 60/199,384, filed on Apr. 25, 2000."

In the Specification:

Col. 1, line 3, delete the text beginning with "This application" to and ending "in its entirety." in col. 1, line 8.

In the Claims:

Col. 292, lines 36-37, in claim 1(j), delete the text "wherein the brain derived neurotrophic factor protein or fragment thereof,".

Col. 292, line 57, in claim 4, "viva" should read --vivo--.

Col. 294, line 15, in claim 15, delete "any of".

Col. 294, line 17, in claim 16, delete "any of".

In the Sequence Listing:

Delete the Sequence Listing beginning in Col. 263, beginning with the text "<160> NUMBER OF SEQ ID NOS: 35" to and ending "<400> SEQUENCE: 35

Signed and Sealed this

Nineteenth Day of September, 2006



JON W. DUDAS  
*Director of the United States Patent and Trademark Office*

Met Pro Thr Trp Ala Trp Trp Leu Phe Leu Val Leu Leu Leu Ala Leu  
 1 5 10 15  
 Trp Ala Pro Ala Arg Gly\*  
 20

in Col. 292 and insert the following Sequence Listing:

<160> NUMBER OF SEQ ID NOS: 45

<210> 1

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> primer useful to clone human growth hormone cDNA

<400> 1

cccaagaatt cccttatcca ggc

23

<210> 2

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> primer useful to clone human growth hormone cDNA

<400> 2

gggaagctta gaagccacag gatccctcca cag

33

<210> 3

<211> 16

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_structure

<223> synthetic oligonucleotide used to join DNA fragments  
 with non-cohesive ends.

<400> 3

gataaagatt cccaac

16

<210> 4

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_structure

<223> synthetic oligonucleotide used to join DNA fragments  
 with non-cohesive ends.

<400> 4  
aattgttggg aatcttt

17

<210> 5  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_structure  
<223> synthetic oligonucleotide used to join DNA fragments  
with non-cohesive ends.

<400> 5  
ttaggcttat tcccaac

17

<210> 6  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_structure  
<223> synthetic oligonucleotide used to join DNA fragments  
with non-cohesive ends.

<400> 6  
aattgttggg aataagcc

18

<210> 7  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> 1)..(19)  
<223> invertase leader sequence

<220>  
<221> SITE  
<222> 20)..(24)  
<223> first 5 amino acids of mature human serum albumin

<400> 7  
Met Leu Leu Gln Ala Phe Leu Phe Leu Leu Ala Gly Phe Ala Ala Lys  
1 5 10 15

Ile Ser Ala Asp Ala His Lys Ser  
20

<210> 8  
<211> 21

<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_structure  
<223> synthetic oligonucleotide used to join DNA  
fragments with non-cohesive ends.

<400> 8  
gagatgcaca cctgagtgag g 21

<210> 9  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_structure  
<223> synthetic oligonucleotide used to join DNA  
fragments with non-cohesive ends.

<400> 9  
gatcctgtgg ctctgatgca cacaaga 27

<210> 10  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_structure  
<223> synthetic oligonucleotide used to join DNA  
fragments with non-cohesive ends.

<400> 10  
ctcttgtgtg catcgaagcc acag 24

<210> 11  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_structure  
<223> synthetic oligonucleotide used to join DNA  
fragments with non-cohesive ends.

<400> 11  
tgtggaagag cctcagaatt tattcccaac 30

<210> 12  
<211> 31  
<212> DNA

## &lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; misc\_structure

&lt;223&gt; synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

&lt;400&gt; 12

aattgttggg aataaattct gaggtctctt c

31

&lt;210&gt; 13

&lt;211&gt; 47

&lt;212&gt; DNA

## &lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; misc\_structure

&lt;223&gt; synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

&lt;400&gt; 13

ttaggcttag gtggcgggtg atccggcggg ggtggatctt tcccaac

47

&lt;210&gt; 14

&lt;211&gt; 48

&lt;212&gt; DNA

## &lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; misc\_structure

&lt;223&gt; synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

&lt;400&gt; 14

aattgttggg aaagatccac caccgccgga tccaccgcca cctaagcc

48

&lt;210&gt; 15

&lt;211&gt; 62

&lt;212&gt; DNA

## &lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; misc\_structure

&lt;223&gt; synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

&lt;400&gt; 15

ttaggcttag gcggtggtgg atctggtggc ggcggatctg gtggcgggtg atccttccca 60  
ac 62

&lt;210&gt; 16

&lt;211&gt; 63

&lt;212&gt; DNA

## &lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; misc\_structure

&lt;223&gt; synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

&lt;400&gt; 16

```
aattgttggg aaggatccac cgccaccaga tccgccgcca ccagatccac caccgcctaa 60
gcc                                                                 63
```

&lt;210&gt; 17

&lt;211&gt; 1782

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(1755)

&lt;400&gt; 17

```
gat gca cac aag agt gag gtt gct cat cgg ttt aaa gat ttg gga gaa 48
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
 1              5              10              15

gaa aat ttc aaa gcc ttg gtg ttg att gcc ttt gct cag tat ctt cag 96
Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
          20              25              30

cag tgt cca ttt gaa gat cat gta aaa tta gtg aat gaa gta act gaa 144
Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
          35              40              45

ttt gca aaa aca tgt gtt gct gat gag tca gct gaa aat tgt gac aaa 192
Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
          50              55              60

tca ctt cat acc ctt ttt gga gac aaa tta tgc aca gtt gca act ctt 240
Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
          65              70              75              80

cgt gaa acc tat ggt gaa atg gct gac tgc tgt gca aaa caa gaa cct 288
Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
          85              90              95

gag aga aat gaa tgc ttc ttg caa cac aaa gat gac aac cca aac ctc 336
Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
          100              105              110

ccc cga ttg gtg aga cca gag gtt gat gtg atg tgc act gct ttt cat 384
Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
          115              120              125

gac aat gaa gag aca ttt ttg aaa aaa tac tta tat gaa att gcc aga 432
Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
```

| 130   | 135 | 140 |      |
|---|-----|-----|------|
| aga cat cct tac ttt tat gcc ccg gaa ctc ctt ttc ttt gct aaa agg |     |     | 480  |
| Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg |     |     |      |
| 145   | 150 | 155 | 160  |
| tat aaa gct gct ttt aca gaa tgt tgc caa gct gct gat aaa gct gcc |     |     | 528  |
| Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala |     |     |      |
|   | 165 | 170 | 175  |
| tgc ctg ttg cca aag ctc gat gaa ctt cgg gat gaa ggg aag gct tcg |     |     | 576  |
| Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser |     |     |      |
|   | 180 | 185 | 190  |
| tct gcc aaa cag aga ctc aaa tgt gcc agt ctc caa aaa ttt gga gaa |     |     | 624  |
| Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu |     |     |      |
|   | 195 | 200 | 205  |
| aga gct ttc aaa gca tgg gca gtg gct cgc ctg agc cag aga ttt ccc |     |     | 672  |
| Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro |     |     |      |
|   | 210 | 215 | 220  |
| aaa gct gag ttt gca gaa gtt tcc aag tta gtg aca gat ctt acc aaa |     |     | 720  |
| Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys |     |     |      |
|   | 225 | 230 | 235  |
| gtc cac acg gaa tgc tgc cat gga gat ctg ctt gaa tgt gct gat gac |     |     | 768  |
| Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp |     |     |      |
|   | 245 | 250 | 255  |
| agg gcg gac ctt gcc aag tat atc tgt gaa aat cag gat tcg atc tcc |     |     | 816  |
| Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser |     |     |      |
|   | 260 | 265 | 270  |
| agt aaa ctg aag gaa tgc tgt gaa aaa cct ctg ttg gaa aaa tcc cac |     |     | 864  |
| Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His |     |     |      |
|   | 275 | 280 | 285  |
| tgc att gcc gaa gtg gaa aat gat gag atg cct gct gac ttg cct tca |     |     | 912  |
| Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser |     |     |      |
|   | 290 | 295 | 300  |
| tta gct gct gat ttt gtt gaa agt aag gat gtt tgc aaa aac tat gct |     |     | 960  |
| Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala |     |     |      |
|   | 305 | 310 | 315  |
| gag gca aag gat gtc ttc ctg ggc atg ttt ttg tat gaa tat gca aga |     |     | 1008 |
| Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg |     |     |      |
|   | 325 | 330 | 335  |
| agg cat cct gat tac tct gtc gtg ctg ctg ctg aga ctt gcc aag aca |     |     | 1056 |
| Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr |     |     |      |
|   | 340 | 345 | 350  |
| tat gaa acc act cta gag aag tgc tgt gcc gct gca gat cct cat gaa |     |     | 1104 |
| Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu |     |     |      |
|   | 355 | 360 | 365  |

|   |      |
|---|------|
| tgc tat gcc aaa gtg ttc gat gaa ttt aaa cct ctt gtg gaa gag cct   | 1152 |
| Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro   |      |
| 370 375 380   |      |
| cag aat tta atc aaa caa aac tgt gag ctt ttt gag cag ctt gga gag   | 1200 |
| Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu   |      |
| 385 390 395 400   |      |
| tac aaa ttc cag aat gcg cta tta gtt cgt tac acc aag aaa gta ccc   | 1248 |
| Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro   |      |
| 405 410 415   |      |
| caa gtg tca act cca act ctt gta gag gtc tca aga aac cta gga aaa   | 1296 |
| Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys   |      |
| 420 425 430   |      |
| gtg ggc agc aaa tgt tgt aaa cat cct gaa gca aaa aga atg ccc tgt   | 1344 |
| Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys   |      |
| 435 440 445   |      |
| gca gaa gac tat cta tcc gtg gtc ctg aac cag tta tgt gtg ttg cat   | 1392 |
| Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His   |      |
| 450 455 460   |      |
| gag aaa acg cca gta agt gac aga gtc aca aaa tgc tgc aca gag tcc   | 1440 |
| Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser   |      |
| 465 470 475 480   |      |
| ttg gtg aac agg cga cca tgc ttt tca gct ctg gaa gtc gat gaa aca   | 1488 |
| Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr   |      |
| 485 490 495   |      |
| tac gtt ccc aaa gag ttt aat gct gaa aca ttc acc ttc cat gca gat   | 1536 |
| Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp   |      |
| 500 505 510   |      |
| ata tgc aca ctt tct gag aag gag aga caa atc aag aaa caa act gca   | 1584 |
| Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala   |      |
| 515 520 525   |      |
| ctt gtt gag ctt gtg aaa cac aag ccc aag gca aca aaa gag caa ctg   | 1632 |
| Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu   |      |
| 530 535 540   |      |
| aaa gct gtt atg gat gat ttc gca gct ttt gta gag aag tgc tgc aag   | 1680 |
| Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys   |      |
| 545 550 555 560   |      |
| gct gac gat aag gag acc tgc ttt gcc gag gag ggt aaa aaa ctt gtt   | 1728 |
| Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val   |      |
| 565 570 575   |      |
| gct gca agt caa gct gcc tta ggc tta taacatctac attttaaagc atctcag | 1782 |
| Ala Ala Ser Gln Ala Ala Leu Gly Leu                               |      |
| 580 585   |      |



<210> 18  
 <211> 585  
 <212> PRT  
 <213> Homo Sapiens

<400> 18

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |
| Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | His | Thr | Glu | Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His  
 275 280 285  
 Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser  
 290 295 300  
 Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala  
 305 310 315 320  
 Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg  
 325 330 335  
 Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr  
 340 345 350  
 Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu  
 355 360 365  
 Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro  
 370 375 380  
 Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu  
 385 390 395 400  
 Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro  
 405 410 415  
 Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys  
 420 425 430  
 Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys  
 435 440 445  
 Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His  
 450 455 460  
 Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser  
 465 470 475 480  
 Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr  
 485 490 495  
 Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp  
 500 505 510  
 Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala  
 515 520 525  
 Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu  
 530 535 540  
 Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys  
 545 550 555 560  
 Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val  
 565 570 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu  
 580 585

<210> 19  
 <211> 58  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> primer\_bind  
 <223> primer used to generate XhoI and ClaI  
 site in pPPC0006

<400> 19  
 gcctcgagaa aagagatgca cacaagagtg aggttgctca tcgatttaaa gatttggg 58

<210> 20  
 <211> 59  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> primer\_bind  
 <223> primer used in generation XhoI and ClaI  
 site in pPPC0006

<400> 20  
 aatcgatgag caacctcact cttgtgtgca tctcttttct cgaggctcct ggaataagc 59

<210> 21  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> primer\_bind  
 <223> primer used in generation XhoI and ClaI  
 site in pPPC0006

<400> 21  
 tacaaactta agagtccaat tagc 24

<210> 22  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <221> primer\_bind  
 <223> primer used in generation XhoI and ClaI  
 site in pPPC0006

<400> 22  
cacttctcta gagtggtttc atatgtctt 29

<210> 23  
<211> 60  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> Misc\_Structure  
<223> Synthetic oligonucleotide used to alter restriction  
sites in pPPC0007

<400> 23  
aagctgcctt aggcttataa taaggcgogc cggccggccg tttaaactaa gcttaattct 60

<210> 24  
<211> 60  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> Misc\_Structure  
<223> Synthetic oligonucleotide used to alter restriction  
sites in pPPC0007

<400> 24  
agaattaagc ttagtttaaa cggccggccg gcgcgcctta ttataagcct aaggcagctt 60

<210> 25  
<211> 32  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> primer\_bind  
<223> forward primer useful for generation of albumin  
fusion protein in which the albumin moiety is N-terminal  
of the Therapeutic Protein

<220>  
<221> misc feature  
<222> (18)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (19)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (20)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (21)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (22)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (23)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (24)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (25)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (26)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (27)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (28)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (29)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (30)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (31)

<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (32)  
<223> n equals a,t,g, or c

<400> 25  
aagctgcctt aggcttannn nnnnnnnnnn nn

32

<210> 26  
<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> primer\_bind  
<223> reverse primer useful for generation of albumin  
fusion protein in which the albumin moiety is N-terminal  
of the Therapeutic Protein

<220>  
<221> misc feature  
<222> (37)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (38)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (39)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (40)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (41)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (42)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (43)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (44)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (45)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (46)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (47)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (48)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (49)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (50)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (51)

<223> n equals a,t,g, or c

<400> 26

gcgcgcgttt aaacggccgg ccggcgcgcc ttattannnn nnnnnnnnnn n

51

<210> 27

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> forward primer useful for generation of albumin fusion protein in which the albumin moiety is c-terminal of the Therapeutic Protein

<220>

<221> misc feature

<222> (19)

<223> n equals a,t,g, or c

<220>

<221> misc feature  
<222> (20)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (21)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (22)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (23)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (24)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (25)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (26)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (27)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (28)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (29)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (30)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (31)



<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (32)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (33)

<223> n equals a,t,g, or c

<400> 27

aggagcgtcg acaaaagann nnnnnnnnnn nnn

33

<210> 28

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> reverse primer useful for generation of albumin  
fusion protein in which the albumin moiety is c-terminal of  
the Therapeutic Protein

<220>

<221> misc feature

<222> (38)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (39)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (40)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (41)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (42)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (43)

<223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (44)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (45)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (46)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (47)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (48)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (49)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (50)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (51)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (52)  
 <223> n equals a,t,g, or c

<400> 28  
 ctttaaactcg atgagcaacc tcactcttgt gtgcatcnm nnnnnnnnnn nn

52

<210> 29  
 <211> 24  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <221> signal  
 <223> signal peptide of natural human serum albumin protein

&lt;400&gt; 29

Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala  
 1                      5                      10                      15

Tyr Ser Arg Ser Leu Asp Lys Arg  
 20

&lt;210&gt; 30

&lt;211&gt; 114

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; primer\_bind

<223> forward primer useful for generation of PC4:HSA  
 albumin fusion VECTOR

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (5)..(10)

&lt;223&gt; BamHI restriction site

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (11)..(16)

&lt;223&gt; Hind III restriction site

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (17)..(27)

&lt;223&gt; Kozak sequence

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (25)..(97)

&lt;223&gt; cds natural signal sequence of human serum albumin

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (75)..(81)

&lt;223&gt; XhoI restriction site

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (98)..(114)

&lt;223&gt; cds first six amino acids of human serum albumin

&lt;400&gt; 30

tcagggatcc aagcttccgc caccatgaag tgggtaacct ttatttcct tctttttctc 60

tttagctcgg cttactcgag ggggtgtgtt cgctcgagatg cacacaagag tgag 114

&lt;210&gt; 31

&lt;211&gt; 43

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

<220>  
<221> primer\_bind  
<223> reverse primer useful for generation of  
PC4:HSA albumin fusion VECTOR

<220>  
<221> misc\_feature  
<222> (6)..(11)  
<223> Asp718 restriction site

<220>  
<221> misc\_feature  
<222> (12)..(17)  
<223> EcoRI restriction site

<220>  
<221> misc\_feature  
<222> (15)..(17)  
<223> reverse complement of stop codon

<220>  
<221> misc\_feature  
<222> (18)..(25)  
<223> AscI restriction site

<220>  
<221> misc\_feature  
<222> (18)..(43)  
<223> reverse complement of DNA sequence encoding last 9 amino acids

<400> 31  
gcagcggtac cgaattcggc ggccttata agcctaaggc agc 43

<210> 32  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> primer\_bind  
<223> forward primer useful for inserting Therapeutic  
protein into pC4:HSA vector

<220>  
<221> misc feature  
<222> (29)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (30)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature

<222> (31)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (32)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (33)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (34)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (35)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (36)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (37)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (38)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (39)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (40)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (41)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (42)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (43)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (44)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (45)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (46)  
<223> n equals a,t,g, or c

<400> 32  
ccgccgctcg aggggtgtgt ttcgtcgann nnnnnnnnnn nnnnnn

46

<210> 33  
<211> 55  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> primer\_bind  
<223> reverse primer useful for inserting Therapeutic  
protein into pC4:HSA vector

<220>  
<221> misc feature  
<222> (38)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (39)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (40)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (41)  
<223> n equals a,t,g, or c

<220>  
<221> misc feature  
<222> (42)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (43)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (44)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (45)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (46)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (47)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (48)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (49)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (50)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (51)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (52)

<223> n equals a,t,g, or c

<220>

<221> misc feature

<222> (53)

<223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (54)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc feature  
 <222> (55)  
 <223> n equals a,t,g, or c

<400> 33  
 agtcccatcg atgagcaacc tcactcttgt gtgcacnann nnnnnnnnnn nnnnn 55

<210> 34  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <221> signal  
 <223> Stanniocalcin signal peptide

<400> 34  
 Met Leu Gln Asn Ser Ala Val Leu Leu Leu Val Ile Ser Ala Ser  
           1                  5                  10                  15

Ala

<210> 35  
 <211> 22  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <221> signal  
 <223> Synthetic signal peptide

<400> 35  
 Met Pro Thr Trp Ala Trp Trp Leu Phe Leu Val Leu Leu Ala Leu  
           1                  5                  10                  15

Trp Ala Pro Ala Arg Gly  
                   20

<210> 36  
 <211> 733  
 <212> DNA  
 <213> Homo sapiens

<400> 36  
 gggatccgga gcccaaattct tctgacaaaa ctacacatg cccaccgtgc ccagcacctg 60  
 aattcgaggg tgcaccgtca gtcttctct tcccccaaa acccaaggac accctcatga 120  
 tctcccgac tcctgaggtc acatgcgtgg tggaggacgt aagccacgaa gaccctgagg 180  
 tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg 240



```

aggagcagta caacagcacg tacggtgtgg tcagcgtcct caccgtcctg caccaggact    300
ggctgaatgg caaggagtac aagtgcaagg tctccaacaa agccctcca acccccatcg    360
agaaaaccat ctccaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc    420
catcccgga tgagctgacc aagaaccagg tcagcctgac ctgcctggtc aaaggcttct    480
atccaagcga catcgccgtg gagtgggaga gcaatgggca gccggagaac aactacaaga    540
ccacgcctcc cgtgctggac tccgacggct ccttcttcct ctacagcaag ctcaccgtgg    600
acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcat gaggtctgc    660
acaaccacta cagcagaag agcctctccc tgtctccggg taaatgagtg cgacggccgc    720
gactctagag gat                                                         733

```

<210> 37

<211> 5

<212> PRT

<213> Artificial sequence

<220>

<221> misc\_structure

<223> membrane proximal motif of class 1 cytokine receptors

<220>

<221> misc\_feature

<222> (3)

<223> Xaa equals any

<400> 37

Trp Ser Xaa Trp Ser

1 5

<210> 38

<211> 86

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> forward primer useful for generation of a synthetic gamma activation site  
(GAS) containing promoter element

<400> 38

gcgcctcgag atttccccga aatctagatt tccccgaaat gatttccccg aaatgatttc 60

cccgaaatat ctgccatctc aattag 86

<210> 39

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> reverse primer useful for generation of a synthetic gamma activation site  
(GAS) containing promoter element

<400> 39

gcggcaagct ttttgcaaag cctaggc

27

<210> 40

<211> 271

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_feature

<223> Synthetic GAS-SV40 promoter sequence

<400> 40

ctcgagattt ccccgaaatc tagatttccc cgaaatgatt tccccgaaat gatttccccg 60

aaatatctgc catctcaatt agtcagcaac catagtcccc ccctaactc cgcccatccc 120

gcccctaact ccgccagtt ccgccattc tccgcccacat ggctgactaa tttttttat 180

ttatgcagag gccgaggccg cctcgccctc tgagctattc cagaagtagt gaggaggctt 240

ttttggaggc ctaggctttt gcaaaaagct t 271

<210> 41

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> primer useful for generation of a EGR/SEAP reporter construct

<400> 41

gcgctcgagg gatgacagcg atagaacccc gg

32

<210> 42

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> primer useful for generation of a EGR/SEAP reporter construct

<400> 42

gcgaagcttc gcgactcccc ggatccgcct c

31

<210> 43

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_binding

<223> NF-KB binding site

<400> 43

ggggactttc cc

12

<210> 44

<211> 73

<212> DNA

<213> Artificial Sequence

<220>

<221> primer\_bind

<223> forward primer useful for generation of a vector containing the NF-KB promoter element

<400> 44

gcggcctcga ggggactttc ccggggactt tccggggact ttccgggact ttccatcctg 60

ccatctcaat tag

73

<210> 45

<211> 256

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_feature

<223> Synthetic NF-KB/SV40 promoter

<400> 45

ctcgagggga ctttcccgga gactttccgg ggactttccg ggactttcca tctgccatct 60

caattagtca gcaaccatag tcccgcctct aactccgcc atcccgcctc taactccgcc 120

cagttccgcc cattctccgc cccatggctg actaattttt tttatttatg cagaggccga 180

ggccgcctcg gcctctgagc tattccagaa gtagtgagga ggcttttttg gaggcctagg 240

cttttgcaaa aagctt

256